

Managing EPA's Emission Inventory Databases



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What is the NEI?



- EPA's National Emission Inventory
 - National Emission Inventory of Criteria Pollutants (and Precursors) and HAPS
 - Published Annually by EPA's Office of Air Quality Standards and Planning
 - EPA's Database as Opposed to States Database (AIRS-AFS)

Uses of the NEI



- Regional and Local Scale Air Quality & Human Exposure Modeling
- Control Strategy Analysis
- Regulatory Impact Analysis
- Risk Assessment Studies
- Emission Trends - Public Reports
- International Reporting

What's in the NEI?



- Geographic Coverage
 - Entire U.S.
 - County Level Inventory for Area and Mobile Sources
 - Process Level Inventory for Point Sources

What's in the NEI?



- Pollutant Coverage
 - Ozone Precursors
 - VOC, NO_x, CO (NET)
 - Direct PM Emissions
 - PM₁₀ and PM_{2.5} (NET)
 - PM Precursors
 - SO₂, NH₃ (NET)
 - Air Toxics
 - 188 HAPs (NTI)

What's in the NEI?



- Temporal Coverage
 - Data for 1985 through 1999 (NET)
 - Highest Quality Data 1996 and forward
 - Data for 1990, 1993, 1996, 1999 (NTI)
 - Annual Emissions (NET and NTI)
 - Average Summer Day Emissions (NET)
 - Operating Schedule & Temporal Factors to Create Emissions for Other Time Periods

NEI Data Input



- Batch Updates - Once a Year
- State Data Used Where Possible
- State Submissions through CDX (June 2001)
- All Data Flows Through EFIG
- EFIG Augments Data Where Necessary

NEI Data Access



AIRSDATA WWW Site
Plant Level Summaries
SIC Summaries
County Level Summaries
Tier 2 Summaries
MACT Code Summaries

**[www.epa.gov/air/data/
sources.htm](http://www.epa.gov/air/data/sources.htm)**

NEON
(Coming 2001 2nd Quarter)
Intranet Query Tool
Available to EPA
Design Your Own Queries
and Data Extracts
Emission Process Detail
Summaries (SCC, SIC, Tier)

EPA FTP Site
FTP Site Where Entire 1996 and
1999 NET and NTI Inventories
Can Be Downloaded
Process/SCC Level for Points
County/SCC Level for
Area/Mobile

**[ftp.epa.gov/pub/
EmisInventory/](ftp://ftp.epa.gov/pub/EmisInventory/)**



Data Access - AIRData

- Emissions (both) - Facility level emissions
- Count (both) - No. of point sources and emissions
- SIC (NET) - No. point sources and emissions in SICs
- Tier (NET) - Point, area, and mobile emissions by EPA Tier Category
- MACT (NTI) - Facility level emissions by MACT Code
- Summary (NTI) - County Level Emissions Broken into Major Source, Area, On-road Mobile, and Non-road Mobile Components

AIRData Selection Screen

AIRSDATA - NTI Emissions Summary Report - Netscape

File Edit View Go Communicator Help

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Bookmarks: Netsite: <http://www.epa.gov/airdata/ntisumns.htm> What's Related

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EPA AIRSDATA Air Pollution Sources

NTI Emissions Summary Report

Sources
[NET](#)
[NTI](#)
• [Emissions](#)
• [Count](#)
• [MACT](#)
► [Summary](#) **(1)**
[Monitors](#)
[Maps](#)
[Contacts](#)
[General Info](#)
[What's New](#)

Geographic Location **(1)**
United States
[Show List of Counties](#)

Pollutant Emitted **(1)**
Sum of All HAPs Emitted

Pollutant Emissions Format **(1)**
☒ Decimal Example: 0.0043 (up to 4 digits)
☐ Scientific Example: 4.3E-02

Lines per Page **(1)**
25

Report Columns To Include **(1)**
☒ EPA Region
☐ State
☐ County
☒ Urban/Rural Designation
☒ % of Total Emissions

Report Always Includes **(1)**
Total Emissions
Major Source Emissions
Area & Other Source Emissions
On-Road Source Emissions
Non-Road Source Emissions

[Generate Report](#)

[AIRSDATA Home Page](#)
<http://www.epa.gov/airdata/ntisumns.htm>

[Comments?](#)
February 20, 2001

Document: Done

Start Microsoft Word - an... Douglas Solomon - C... Exploring - D:\Plans... WordPerfect: 9 - JCN... Microsoft PowerPoin... AIRSDATA - NTI ... 4:41 PM

AIRData Output Screen

NTI Emissions Summary Report - Netscape

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Bookmarks Netsite: http://ospub.epa.gov/airdata/nli_summary?geo=USA&cnty=&pol=All+HAPs+Summed&emis=all&pp=25&id=reg&id=ub&id=percent What's Related

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AIRData
EPA Office of Air Quality Planning and Standards

NTI Emissions Summary Report
February 20, 2001 10 Rows See [Disclaimer](#)

United States NTI Air Pollution Sources - All HAPs Summed (1996)

Pollutant Emissions in Pounds Per Year

Row #	EPA Region	Total Emissions	% Of Grand Total	Major Source Emissions	% Of Major Total	Area & Other Emissions	% Of Area & Other Total	On-Road Emissions	% Of On-Road Total	Non-Road Emissions	% Of Non-Road Total
1	5	1,924,428,302	20.84	397,776,188	17.64	399,438,440	17.16	553,855,802	19.78	573,358,071	31.00
2	4	1,815,921,397	19.67	648,147,814	28.74	400,402,827	17.20	561,952,948	20.06	205,417,808	11.11
3	6	1,209,509,794	13.10	364,550,511	16.16	368,145,675	15.82	347,225,171	12.40	129,588,437	7.01
4	9	936,749,743	10.15	103,596,143	4.59	273,666,817	11.76	358,756,157	12.81	200,730,627	10.85
5	3	773,964,376	8.38	226,578,027	10.05	177,981,368	7.65	249,968,804	8.93	119,436,177	6.46
6	2	636,319,885	6.89	109,916,457	4.87	152,030,636	6.53	236,462,842	8.44	137,919,930	7.46
7	10	570,130,705	6.17	44,334,084	1.97	220,146,226	9.46	102,388,150	3.66	203,262,245	10.99
8	7	474,915,690	5.14	181,781,301	8.06	97,349,492	4.18	138,917,026	4.96	56,867,872	3.07
9	8	474,833,659	5.14	144,204,799	6.39	135,657,472	5.83	110,493,143	3.95	84,478,245	4.57
10	1	406,462,822	4.51	34,579,977	1.53	102,636,127	4.41	140,748,651	5.03	138,498,067	7.49
Grand Total		9,233,236,574		2,255,465,302		2,327,445,030		2,800,768,694		1,849,557,498	

Page 1 of 1

Export this report to a text file [1](#)
Create comma-delimited or tab-delimited values, compatible with PC spreadsheets and databases.

Document Done

Start Microsoft Word - aw... Douglas Solomon - C... Exploring - D:\Planni... WordPerfect 9 - [C:\... Microsoft PowerPoint... NTI Emissions S... 4:40 PM

NEON Selection Screen

NEI Query Tool - Netscape

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bookmarks Location: <http://janica.pes.com/host30/neon/index.cfm?anchor> What's Related

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NEON NEI EMISSIONS ON THE NET

≡ Browse ≡ ≡ Reports ≡ ≡ Export ≡ ≡ Filter ≡ ≡ Help ≡

NEI Query Tool - Filter Criteria

✓ 1 Data Set: ☒ Criteria ☐ Tables

✓ 2 Data Use:

✓ 3 Year:

✓ 4 Geographic Area:

State(s):
ALABAMA
ALASKA
ARIZONA

Highlight one or more states then click on the "Enter" button below.

Enter

Currently Selected: 12

✓ 5 Source Type:

✓ 6 Emission Amount:

Highlight one or more pollutants

Document: Done

Start NEI Query Tool - Nets...

11:51 AM

NEON Output Screen

The screenshot shows a Netscape browser window titled "NEI Query Tool - Netscape". The address bar displays the URL: <http://jasaica.pes.com/host30/neon/index.cfm?RequestTimeout=3600>. The page features the NEON logo and navigation links: Browse, Reports, Export, Filter, and Help. Below the navigation bar, the search criteria are displayed: Database: Criteria, Year: 1996, Geographies: State, Source Type: All, Pollutant: SO2.

The main heading is "NEI Query Tool - Reports". Below it, a message states: "This query processed in 1.19405 min." and "Emissions are displayed as tons/year."

State	County	Site ID	Unit ID	Process ID	SCC	SO2
10	001	16622	74184	96205	10300401	53.39
Total for Process ID 96205						53.39
Total for Unit ID 74184						53.39
10	001	16622	74185	96207	10300401	3.26
Total for Process ID 96207						3.26
Total for Unit ID 74185						3.26
10	001	16622	74186	96209	10300401	60.98
Total for Process ID 96209						60.98
Total for Unit ID 74186						60.98
10	001	16622	74187	96210	10300401	5.60
Total for Process ID 96210						5.60
Total for Unit ID 74187						5.60

The browser window shows the status bar at the bottom with "Document Done" and the taskbar at the very bottom with the Start button and a taskbar showing the "NEI Query Tool - Nets..." window and the system clock at 12:02 PM.

NEI Inventory

Sources of Data



- Electric Generating Units (EGUs)
 - Emission Tracking System/Continuous Emissions Monitoring Data (ETS/CEM) - NO_x and SO₂
 - Augmented with fuel use data from DOE and AP-42 Emission Factors for Other Pollutants and Small Sources
 - ESD (NTI - Mercury)
 - States

NEI Inventory

Sources of Data (cont..)



- Non-EGU Point Sources
 - State Data for More Than 40 States
 - ESD (NTI)
 - Toxics Release Inventory (NTI)
 - Older Inventories Grown Where No State Data Submitted (NET)

NEI Inventory

Sources of Data (cont.)



- Onroad Mobile
 - Vehicle Miles Traveled (VMT)
 - Highway Performance Monitoring System (HPMS)
 - Emission Factors
 - MOBILE5b Default Updated with NO_x SIP Call Data
 - PART5 for PM and SO₂
 - Factors From OTAQ Study for Ammonia

NEI Inventory

Sources of Data (cont.)



- Nonroad Mobile
 - Beta Version of OTAQ NONROAD Model
 - Updated Activity and Emission Factor Data
 - OTAQ Factors for Ammonia

NEI Inventory

Sources of Data (cont.)



- Stationary Area Sources
 - State Data
 - Estimated by EPA
 - Older Inventories Grown Where No State Data Submitted (NET)

NEI Inventory

Current/Future Plans



- NET Version 4 - March 2001
 - More 1996 State Data
 - Improved Mobile Source Estimates
 - More Rigorous QA
 - Preliminary 1999 Estimates

NEI Inventory

Current/Future Plans (cont.)



- 1999 Inventory Cycle
 - State Data including utility and mobile source
 - NET/NTI Integration (Name will change to National Emission Inventory - NEI)
 - Standard Formats for Inputs and Reports
 - Use of CDX for State Submittals
 - Automated QA Software
 - Incorporation of Most Current Methods and Data
 - Tribal Indicators

NEI Inventory

Current/Future Plans (cont.)



- Enhanced Access
 - Improvements to AIRData
 - Intranet Query Tool - Direct Access to Oracle Data Base
 - AIRS Graphics - Maps & Graphs
 - Envirofacts

Some Database Tips



- Design for the Near Future
- Take Small Bites
- Get Good Database Help Early
- Keep it Simple

NEI Inventory

For More Information . . .



- CHIEF Website
 - <http://www.epa.gov/ttn/chief/>
- Look for NEI Users Group and Listserve
 - <http://www.epa.gov/ttn/chief/listserv.html#nei>